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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,828	12/04/2003	Hisao Asaumi	14411.2US01	7496
23552	7590	01/11/2005	EXAMINER	
MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903			NOORI, MAX H	
			ART UNIT	PAPER NUMBER
			2855	

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/727,828	ASAUMI ET AL.	
	Examiner	Art Unit	
	Max Noori	2855	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 9, 12, 13 and 15 is/are rejected.
- 7) ☒ Claim(s) 6, 8, 10, 11, 14 and 16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2/27/04</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made:

2. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al.

Regarding claim 1, Kobayashi et al., discloses a torque sensor with features of the claimed invention including a magnetic metal film with magnetic anisotropy attached to a shaft; an exciting coil and a detector coil each installed near the shaft, corresponding excitation power supply source for generating power to the coil and a voltage supply to provide suitable voltage to coil, and a torque detector acting based on an output of the detector coil when the torque is applied (see for example claim 13). Although Kobayashi et al., does not explicitly recite the value of the voltage. However, because the reference discloses the use of a voltage detector, it would have been obvious for a skilled artisan at the time of the invention to control the voltage and allow for the supply of a suitable voltage corresponding to a mid-level or an average duty ratio of the excitation coil of around 50% in order to optimize the operation and reduce the potential error (see col. 6, line 53-60).

Regarding claim 2, the voltage detector controls the amount of the voltage to the detector coil (see col. 6, lines 55-60).

Regarding claim 3, Kobayashi et al., does not indicate that the sensor is installed to a power steering. It would have been obvious, however, for a skilled artisan at the time of the invention to use this kind of torque system for any suitable application. Because for an apparatus claims where all the elements of a claim is presented in a cited art, the mere aspect of the intended use fails to provide for an unobvious advantage or a patentable distinction.

Regarding claim 4, Kobayashi et al., shows the use of a pulse generator (element 232) for the provision of variable frequency.

Regarding claim 5, Kobayashi et al., teaches a plurality of detecting coils (col. 7, line 59).

3. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al., in view of Hanazawa.

Kobayashi et al., does not explicitly recite a biasing voltage to the coil. However depending on a desired intended use any electronic component can be added by bias voltage. Provision of bias voltage to the detecting or exciting coils of a torque, is also notoriously known. Hanazawa for example is presented to show such assertion (col. 6, line 18). Therefore, it would have been obvious for a skilled artisan at the time of the invention to modify Kobayashi et al., with proper added voltage to obtain an optimum performance.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2855

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 9, 13, are rejected under 35 U.S.C. 102(b) as being anticipated by Kobayashi et al.

Kobayashi et al., discloses a torque sensor with a magnetic metal film attached to a shaft; an exciting coil and a detector coil each installed near the shaft, corresponding excitation power supply source for generating power to the coil and a voltage supply to provide suitable voltage to coil, a processor (see claim 4) a torque detector acting based on an output of the detector coil when the torque is applied.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al.

See comments regarding claim 3.

7. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al., in view of Hanazawa.

See comments regarding claim 7.

8. Claims 6, 8, 10-11, 14, and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2855

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

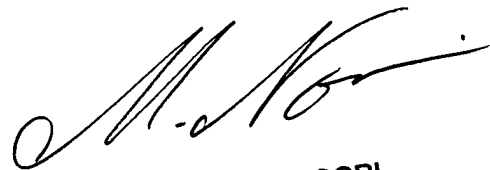
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Max H. Noori whose telephone number is (571) 272-2185. The examiner can normally be reached on Tuesday-Friday from 8:00 AM to 6:00 PM.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. The central fax number is (703) 827-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MHN

Friday, January 07, 2005



MAX NOORI
PRIMARY EXAMINER